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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/092,158	06/05/1998	SAILESH M. MERCHANT	MERCHANT3333	5736

27964 7590 04/02/2004

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EXAMINER	
MALDONADO, JULIO J	

ART UNIT	PAPER NUMBER
2823	

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/092,158	MERCHANT ET AL.	
	Examiner	Art Unit	
	Julio J. Maldonado	2823	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 15 March 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☒ The period for reply expires *4* months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ they raise the issue of new matter (see Note below);
   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: _____.
3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *See Continuation Sheet*.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☐ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1,4-12 and 15-24*.

   Claim(s) withdrawn from consideration: _____.
8. ☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

George Fourson
Primary Examiner

Continuation of 5. does NOT place the application in condition for allowance because: Applicant's arguments filed 03/15/2004 have been fully considered but they are not persuasive.

Applicants argue, "...For instance, [the] combination of references do not teach or suggest subjecting the contact plug within the contact opening to a temperature from about 600C to about 750C to anneal the barrier layer in the contact opening...Kim does not disclose or suggest heating beyond 550C...Teo performs rapid thermal anneal at a much earlier point in the fabrication process than the heating step used in Kim's process...the applicants maintain that there is no motivation for one skilled in the art to apply Teo's RTA of 670o to the heating stage in Kim's process...". In response to this argument, Kim et al. was relied on performing a heating treatment, changing the crystalline structure (i.e. annealing) of the barrier layer (26, 27) to reduce ohmic contact (column 5, line 62 - column 6, line 3). Furthermore, Kim et al. also teach that performing heating treatments at temperatures above 450C improve adhesion of the barrier layers (Kim et al., column 1, lines 52 - 62). Even though Kim et al. teach adverse effects of performing the heat treatments at temperatures above 500C (Kim et al., column 2, lines 15 - 22), Kim et al. teach the limitation nonetheless and disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). Even a teaching away from a claimed invention does not render the invention patentable. See Celeritas Technologies Ltd. v. Rockwell International Corp 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998), where the court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed." To further clarify, a prior art opinion that a claimed invention is not preferred for a particular limited purpose, does not preclude utility of the invention for that or another purpose, or even preferability of the invention for another purpose. Therefore, Kim et al. is open to perform heat treatments at temperatures beyond 550oC. Furthermore, Teo was relied on annealing a barrier layer at a temperature of 670C for about 30 seconds, overlapping the claimed temperature and time ranges, for the purpose of improving adhesion of the barrier layer (Teo, column 4, liens 17 - 25). Also, even though applicants assert that the temperature process disclosed in Teo was at an earlier point in the fabrication process, Teo wasn't relied on that purpose..